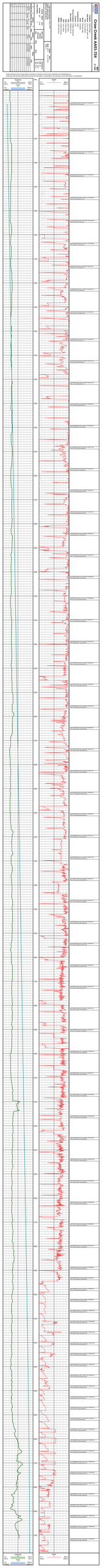

Crow Creek AA01-724

MD
2":100'

ENSIGN
Directional Services

Company: Noble Energy
Well Name: Crow Creek AA01-724
API: 05-123-40152
Rig Id: Precision 829
State: Colorado
County/Parish: Weld
Country: USA
Survey Company: Ensign Directional
Job number: PD829-207-32
DD1 Zach Gentry
DD2 Colby Hansen
DD3 Tony Callow
MWD1 Andrew Demrow
MWD2 Collin McCloud

Log measurements: Gama, ROP
Depth measured from:
Maximum temperature:

	Depth	**Date**
Start:	697 ft	12-14-2014
End:	ft	

Casing	**Depth**	**Size**
Surface:	687	9 5/8
Intermediate:		7

Mud Type:
Density:
Viscosity:
Rm: **Rmf:** **Rmc:**

Elevations
KB: 16
GL: 4857
DF: 4873

Run	**Bit Size**	**Offsets**		**Depths**		**Dates**	
		Gamma	**Survey**	**Start**	**End**	**Start**	**End**
1	13.5			0	697	12-13-2014	12-14-2014
2	8.75	59.48	54.48	697	7074	12-14-2014	12-16-2014
3							
4							
5							
6							
7							
8							
9							
10							

Ensign Directional uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.

#6 MD(1056.00) Inc(0.5) Azm(218.5) TVD(1055.99)
VS(1.93) NS(-1.96) EW(-0.38)

#7 MD(1164.00) Inc(0.4) Azm(188.3) TVD(1163.99)
VS(2.64) NS(-2.70) EW(-0.73)

#8 MD(1259.00) Inc(0.6) Azm(183.2) TVD(1258.99)
VS(3.46) NS(-3.53) EW(-0.80)

#9 MD(1354.00) Inc(0.9) Azm(211.0) TVD(1353.98)
VS(4.56) NS(-4.66) EW(-1.22)

#10 MD(1449.00) Inc(0.8) Azm(210.1) TVD(1448.97)
VS(5.72) NS(-5.88) EW(-1.93)

#11 MD(1544.00) Inc(0.4) Azm(239.3) TVD(1543.96)
VS(6.42) NS(-6.62) EW(-2.55)

#12 MD(1639.00) Inc(1.8) Azm(116.7) TVD(1638.95)
VS(7.33) NS(-7.46) EW(-1.50)

#13 MD(1734.00) Inc(4.1) Azm(85.3) TVD(1733.82)
VS(8.07) NS(-7.85) EW(3.22)

#14 MD(1829.00) Inc(4.7) Azm(93.2) TVD(1828.54)
VS(8.53) NS(-7.79) EW(10.49)

#15 MD(1924.00) Inc(6.0) Azm(82.3) TVD(1923.13)
VS(8.73) NS(-7.34) EW(19.29)

#16 MD(2037.00) Inc(7.5) Azm(72.2) TVD(2035.35)
VS(6.63) NS(-4.30) EW(32.17)

#17 MD(2127.00) Inc(9.3) Azm(69.6) TVD(2124.38)
VS(3.22) NS(0.03) EW(44.58)

#18 MD(2217.00) Inc(9.4) Azm(56.3) TVD(2213.19)
VS(-2.44) NS(6.65) EW(57.51)

#19 MD(2306.00) Inc(9.8) Azm(46.7) TVD(2300.95)
VS(-10.80) NS(15.88) EW(69.07)

#20 MD(2396.00) Inc(9.7) Azm(44.1) TVD(2389.65)
VS(-20.68) NS(26.57) EW(79.92)

#21 MD(2485.00) Inc(9.1) Azm(42.3) TVD(2477.46)
VS(-30.51) NS(37.16) EW(89.88)

#22 MD(2575.00) Inc(8.9) Azm(40.5) TVD(2566.35)
VS(-40.36) NS(47.72) EW(99.19)

#23 MD(2664.00) Inc(8.6) Azm(39.9) TVD(2654.31)
VS(-50.04) NS(58.06) EW(107.93)

#24 MD(2754.00) Inc(8.4) Azm(40.4) TVD(2743.32)
VS(-59.56) NS(68.23) EW(116.51)

#25 MD(2844.00) Inc(8.6) Azm(39.8) TVD(2832.34)
VS(-69.08) NS(78.41) EW(125.07)

#26 MD(2933.00) Inc(6.9) Azm(47.2) TVD(2920.52)
VS(-77.21) NS(87.15) EW(133.26)

#27 MD(3023.00) Inc(7.4) Azm(50.5) TVD(3009.82)
VS(-83.93) NS(94.51) EW(141.69)

#28 MD(3112.00) Inc(7.3) Azm(47.7) TVD(3098.09)
VS(-90.74) NS(101.96) EW(150.30)

#29 MD(3202.00) Inc(7.2) Azm(47.3) TVD(3187.37)
VS(-97.78) NS(109.64) EW(158.67)

#30 MD(3292.00) Inc(7.0) Azm(45.2) TVD(3276.68)
VS(-104.86) NS(117.32) EW(166.71)

#31 MD(3381.00) Inc(6.7) Azm(43.2) TVD(3365.05)
VS(-111.91) NS(124.93) EW(174.11)

#32 MD(3470.00) Inc(6.7) Azm(49.9) TVD(3453.44)
VS(-118.47) NS(132.06) EW(181.64)

#33 MD(3560.00) Inc(6.1) Azm(46.3) TVD(3542.88)
VS(-124.59) NS(138.75) EW(189.11)

#34 MD(3650.00) Inc(5.8) Azm(45.8) TVD(3632.39)
VS(-130.56) NS(145.22) EW(195.83)

#35 MD(3739.00) Inc(5.8) Azm(44.8) TVD(3720.94)
VS(-136.40) NS(151.55) EW(202.22)

#36 MD(3829.00) Inc(5.6) Azm(46.0) TVD(3810.49)
VS(-142.20) NS(157.82) EW(208.58)

#37 MD(3919.00) Inc(5.5) Azm(48.1) TVD(3900.07)
VS(-147.65) NS(163.75) EW(214.95)

#38 MD(4008.00) Inc(7.4) Azm(55.1) TVD(3988.51)
VS(-153.19) NS(169.88) EW(222.83)

#39 MD(4098.00) Inc(7.2) Azm(54.7) TVD(4077.78)
VS(-159.06) NS(176.46) EW(232.19)

#40 MD(4188.00) Inc(7.1) Azm(55.0) TVD(4167.08)
VS(-164.83) NS(182.91) EW(241.34)

#41 MD(4277.00) Inc(6.9) Azm(52.5) TVD(4255.41)
VS(-170.58) NS(189.32) EW(250.09)

#42 MD(4367.00) Inc(6.6) Azm(49.4) TVD(4344.79)
VS(-176.62) NS(195.97) EW(258.31)

#43 MD(4456.00) Inc(6.0) Azm(45.2) TVD(4433.25)
VS(-182.69) NS(202.58) EW(265.49)

#44 MD(4546.00) Inc(5.1) Azm(38.5) TVD(4522.83)
VS(-188.69) NS(209.02) EW(271.32)

#45 MD(4636.00) Inc(3.8) Azm(30.2) TVD(4612.56)
VS(-194.09) NS(214.73) EW(275.31)

#46 MD(4725.00) Inc(4.0) Azm(25.5) TVD(4701.35)
VS(-199.23) NS(220.08) EW(278.13)

#47 MD(4815.00) Inc(2.8) Azm(33.2) TVD(4791.19)
VS(-203.70) NS(224.76) EW(280.69)

#48 MD(4904.00) Inc(3.2) Azm(53.1) TVD(4880.07)
VS(-206.77) NS(228.07) EW(283.86)

#49 MD(4994.00) Inc(0.7) Azm(358.9) TVD(4970.02)
VS(-208.68) NS(230.13) EW(285.86)

#50 MD(5084.00) Inc(0.8) Azm(12.7) TVD(5060.01)
VS(-209.83) NS(231.29) EW(285.99)

#51 MD(5173.00) Inc(1.1) Azm(355.6) TVD(5149.00)
VS(-211.28) NS(232.75) EW(286.06)

#52 MD(5263.00) Inc(0.8) Azm(343.6) TVD(5238.98)
VS(-212.75) NS(234.21) EW(285.82)

#53 MD(5353.00) Inc(0.1) Azm(169.3) TVD(5328.98)
VS(-213.29) NS(234.74) EW(285.65)

#54 MD(5442.00) Inc(0.5) Azm(243.0) TVD(5417.98)
VS(-213.06) NS(234.48) EW(285.32)

#55 MD(5532.00) Inc(0.5) Azm(287.0) TVD(5507.98)
VS(-213.05) NS(234.42) EW(284.60)

#56 MD(5621.00) Inc(0.3) Azm(282.6) TVD(5596.98)
VS(-213.26) NS(234.58) EW(284.00)

#57 MD(5711.00) Inc(0.4) Azm(310.0) TVD(5686.97)
VS(-213.55) NS(234.84) EW(283.53)

#58 MD(5801.00) Inc(0.4) Azm(294.0) TVD(5776.97)
VS(-213.91) NS(235.17) EW(283.00)

#59 MD(5891.00) Inc(0.4) Azm(324.6) TVD(5866.97)
VS(-214.33) NS(235.55) EW(282.53)

#60 MD(5935.00) Inc(0.5) Azm(286.9) TVD(5910.97)
VS(-214.53) NS(235.73) EW(282.26)

#61 MD(5980.00) Inc(2.3) Azm(236.1) TVD(5955.95)
VS(-214.15) NS(235.28) EW(281.32)

#62 MD(6025.00) Inc(6.9) Azm(209.6) TVD(6000.80)
VS(-211.46) NS(232.43) EW(279.23)

#63 MD(6070.00) Inc(11.7) Azm(194.3) TVD(6045.20)
VS(-204.88) NS(225.65) EW(276.77)

#64 MD(6115.00) Inc(16.3) Azm(190.3) TVD(6088.86)
VS(-194.43) NS(215.01) EW(274.51)

#65 MD(6160.00) Inc(19.6) Azm(189.2) TVD(6131.66)
VS(-180.97) NS(201.34) EW(272.18)

#66 MD(6205.00) Inc(22.5) Azm(185.8) TVD(6173.65)
VS(-165.14) NS(185.32) EW(270.10)

#67 MD(6249.00) Inc(25.3) Azm(181.7) TVD(6213.88)
VS(-147.49) NS(167.55) EW(268.97)

#68 MD(6294.00) Inc(28.4) Azm(176.7) TVD(6254.03)
VS(-127.22) NS(147.24) EW(269.30)

#69 MD(6339.00) Inc(30.7) Azm(177.5) TVD(6293.17)
VS(-105.04) NS(125.08) EW(270.42)

#70 MD(6384.00) Inc(33.5) Azm(179.2) TVD(6331.29)
VS(-81.15) NS(101.18) EW(271.09)

#71 MD(6429.00) Inc(36.3) Azm(182.4) TVD(6368.20)
VS(-55.51) NS(75.45) EW(270.71)

#72 MD(6473.00) Inc(41.1) Azm(181.3) TVD(6402.53)
VS(-28.16) NS(47.96) EW(269.83)

#73 MD(6518.00) Inc(47.4) Azm(179.8) TVD(6434.74)
VS(3.11) NS(16.58) EW(269.56)

#74 MD(6563.00) Inc(51.7) Azm(181.2) TVD(6463.93)
VS(37.23) NS(-17.66) EW(269.24)

#75 MD(6608.00) Inc(54.2) Azm(181.0) TVD(6491.04)
VS(72.99) NS(-53.56) EW(268.55)

#76 MD(6653.00) Inc(57.7) Azm(177.8) TVD(6516.24)
VS(110.19) NS(-90.83) EW(268.97)

#77 MD(6698.00) Inc(61.5) Azm(174.1) TVD(6539.01)
VS(148.99) NS(-129.53) EW(271.73)

#78 MD(6742.00) Inc(64.7) Azm(174.2) TVD(6558.92)
VS(188.21) NS(-168.56) EW(275.73)

#79 MD(6787.00) Inc(67.2) Azm(174.8) TVD(6577.26)
VS(229.29) NS(-209.46) EW(279.67)

#80 MD(6832.00) Inc(68.1) Azm(175.0) TVD(6594.37)
VS(270.90) NS(-250.91) EW(283.36)

#81 MD(6877.00) Inc(69.9) Azm(175.6) TVD(6610.49)
VS(312.91) NS(-292.78) EW(286.81)

#82 MD(6922.00) Inc(73.7) Azm(178.3) TVD(6624.55)
VS(355.63) NS(-335.46) EW(289.07)

#83 MD(6967.00) Inc(76.7) Azm(181.6) TVD(6636.05)
VS(399.02) NS(-378.95) EW(289.10)

#84 MD(7019.00) Inc(81.6) Azm(180.7) TVD(6645.83)
VS(449.85) NS(-430.00) EW(288.08)